THE

AGRICULTURAL

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Camden, New Jersey, May 2d, 1825.

A REVIEW OF THE FORMER AND PRESENT AGRICULTURAL PROSPECTS OF THE ATLANTIC STATES.

THE Agricultural prospects of the atlantic states, has lately, been materially affected by a sudden transition from a state of unusual prosperity, to that of a depression almost sufficient to unnerve the active arm of the enterprising farmer; who has, within the lapse of a few years, amidst the verdure of vegetation, the profusion of fruitful seasons and the smiles of plenty, beheld the price of the products of the soil, and real estate, depreciate from twenty to fifty per cent, enveloping his future prospects in the obscurity of uncertainty. Surrounded by embarrasments of this nature, he will naturally review the former and present agricultural prospects of those states; compare his own conveniencies or inconveniencies with those of his ancestors, and carefully enquire into the causes that may have had an agency in promoting the present unpropitious revolution of times, in order that he may, if possible, define the extent, and ascertain the probable limits of this downward course of affairs.

If we advert to the statistical history of Europe and of the United States, we shall find that the price of domestic articles in almost every age, and in all countries, bears a sort of compound relative proportion, to the surplus of any particular article in the Market, the demand for the article abroad and the amount of the circulating medium; and that the average price of bread stuffs and labour has been gradually advancing; from a very remote period, untill within a few years past, though at intervals, the scale of gradation has been suddenly broken, by the effects of wars, famine and sometimes by acts of domestic, or foreign policy in the regulation of commercial transactions; sometimes, raising them far above, and at others depressing

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them as much below their par value.

According to Nicholson's Philosophical Journal, in the year 1050, the price of wheat in England was seven pence per bushel, and labor three pence half penny, sterling per day; since which period, until a few years past, the nominal value of bread stuffs and labor have been advancing by regular or unequal mutations. At the close of the revolutionary struggle of the United States with Great Britain, which eventuated in our Independence, the average of wheat in England was 4s. 6d. and of labor 1s. 2d. and in the United States, that of wheat seventy-five cents, and of labor fifty cents, which prices continued nearly stationary until the late revolutions in France, and in St. Domingo; which events were the immediate cause of a sudden influx of wealth and commerce to the United States, in consequence of many of the nobility of the one, and, of the rich planters of the other, emigrating thither with their whole capitals. In the course of four years, agreeably to Mr. Blodget's Statistical Manuel, the circulating medium of the United States, increased from 11,500,000 dollars to 43,-100,000 and, before the termination of the bloody European contest, wheat had advanced from 75 cents to 2 dollars and 20 cents, rye, from 50 cents to 1 dollar 10 cents, corn, from 45 cents to 1 dollar, per bushel, pork from 4 to 10 dollars per cwt. labor from 50 cents to 1 dollar per day, and improved lands near towns from 50 to 150 dollars per acre; a rise almost without a parallel in the history of any country, and which, unquestionably grew out of the peculiar embarrassments under which the European powers laboured, from the devastations of war and civil commotions, which rendered them not only unable to realize their accustomed supply of the necessaries of life from their own resources, but likewise, in many instances, from availing themselves of the advantage of their own vessels in supplying themselves with that deficiency. Thus an additional impulse, and new directions, were given to the mercantile transactions of the United States, her commerce was necessarily courted, her canvass whitened every ocean, her Eagle fluttered in almost every port, and the very waves of the bold Atlantic seemed to role the treasures of Europe into the coffers of the American Merchant and Farmer, until the belligerant powers became jealous of our prosperity, and finally contrived to draw us into the vortex of war, by a contest with Great Britain. In the mean time, Banking capital had increased to an immence amount, the nominal quantity of circulating medium vastly exceeded the real, from large emissions of Bank paper, nearly to the exclusion of specie; money was of course plenty and easy of access, real estate continued to advance, large purchases of land as well as of other articles were made for speculative purposes; when—our differences with England were suddenly terminated, and the whole world quietly reposed in the arms of peace. Europe having as it were exchanged the sword for the ploughshare, and the spear for the pruning hook, had turned her attention toward supplying her natural wants from the products of her own soil, by converting depopulated plains that had been recently manured with human gore, into fields of waving grain; and, of regaining

her former commercial advantages, by circumscribing those of the United States within their natural limits, subjecting the mercantile and agricultural interets of this country to an ambarrasing revolution, that could but be severely felt by every class of the community; new channels for commercial interprize were to be opened, and the nominal value of agricultural produce was about to revert to the level of 1790; not by a gradual decline of twenty years, but by a transition almost as sudden as the births of the events that had arrested the wheel of their late prosperity.--The superabundance of Bank paper, and the absence of the precious metals, had become not only a subject of distrust, but of alarm; insomuch as to attract the attention of government, which wisely adopted the most judicious measures for reducing the circulating medium to the standard of specie capital. A measure peremtorily called for by existing circumstances, but a measure which must necessarily have been productive of temporary inconveniencies and personal losses.

The Banks had hitherto been liberal in accommodations, the paper emissions of many of them at this juncture was thought to have exceeded their cash capitals, the preservation, therefore, of their institutions, suggested the propriety, if not the necessity, of judiciously contracting the sphere of their operations, and recalling their surplus paper; millions of dollars were accordingly unavoidably called for, the most part of which had probably been expended in the purchase of real estate, &c. and which could be replaced but by the net proceeds of the sale thereof. This consequently brought an unusal quantity of real estate into market, which accumulated daily, from the apprehensions of those who had purchased or sold upon the faith of more private credit, until it became completely overstocked, and could but have a powerful agency in depreciating its value, and finally, of promoing immense sacrafices of property.

Hence it appears evident, the late extraordinary prosperous state of the mercantile and agricultural interests of the United States, and their subsequent decline, grew, in a great measure out of causes seated beyond the Atlantic, and of course, not within our control: we have, however sustained the shock, with the least possible injury, and have a modest confidence that the downward course of the scale has reached its lowest extremity; real estate in many places has advanced in value, and although the equalizing effects of the course of internal improvements now pursued in almost every part of the United States, particularly that of Steam Boat and Canal navigation, may still operate against any material advance in the price of Bread Stuffs, by bringing into market the produce of thousands of acres of the most fertile soil in the interior, which has been hiterto, in a manner precluded by the difficulty and expense of transportation, yet there are other, if not more profitable sources, to which the farmer may turn his attention, and by multiplying the species of crops, enhance the general value of all; we are becoming not only an agricultural and commercial, but a manufacturing nation; our infant manufactories must be supplied with raw materials; commercial enterprise has sought out other resources; the recognition of

the independence of the South American provinces has opened a wide, and we trust a permanent field for mercantile pursuits, equally flattering to the merchant and the agriculturalist. If, therefore, grain crops will not remunerate the farmer, his attention may be turned to the cultivation of hemp, flax, wool, tobacco, cotton, the hop, grape, or the castor bean; according to the nature of the soil and climate of his location. R. G. Johnson Esqr. President of the Salem N. J. Agricultural Society, has, in a late address, recommended this subject to the attention of the society, and to the agriculturalists of Salem County. As we have already exceeded our intended limits in this review, we shall conclude by observing, that, if the occupation of farming was profitable in 1790, it is no less so now; the average price of rye, corn, pork, beef, butter and cheese, being now about the same they were then, and wheat and potatoes considerably higher; and, as other sources are daily developing for the extention of agricultural pursuits, which promise to be no less profitable to the Farmer, we think there is reasonable grounds to infer, that although it may be a while e'er he will realize the profits of 1812, yet his prospects are improving, and that the index of existing circumstances points to future prosperity. EDITOR.

PORTRAIT OF AN AMERICAN FARMER.

From Mr. Biddle's Address to the Philadelphia Society for promoting Agriculture.

'The American farmer is the exclusive, absolute, uncontrolled proprietor of the soil. His tenure is not from government. The government derives its power from him. There is above him nothing but God and the laws. no hereditary authority usurping the distinctions of personal genius, no established church spreading its dark shadow between him and Heaven. His frugal government neither desires nor dares to oppress the soil; and the altars of religion are supported only by the voluntary offerings of sincere piety. His pursuits which no perversion can render injurious to any, are directed to the common benefit of all. In multiplying the bounties of Providence in the improvement and establishment of the soil, in the care of the inferior animals committed to his charge, he will find an ever-varying and interesting employment, dignified by the union of the liberal studies, enlivened by the exercise of a simple and generous hospitality. His character assumes a loftier interest by its influence over the public liberty. It may not be foretold to what dangers his country is destined, when its swelling population, its expanding territory, its daily complicating interests shall awake the latent passions of men, and reveal the vulnerable points of our institutions. But, whenever these perils come, its most steadfast security, its unfailing reliance, will be on that column of landed proprietors—the men of the soil and of the country—standing aloof from the passions which agitate denser communities, well educated, brave and independent, the friends of the government without soliciting its favours, the advocates of the people without descending to flatter their passions; these men, rooted like their own forests, may yet interpose between the factions of the country, to heal, to defend and to save.'

TO THE FARMERS.

Cultivate your fields in the following manner: first, fence your farm in five fallows or fields, and you can every year have two fields with clover, one with harvest, one with corn, flax, oats, or millet.

By proceeding in the following manner you will every year have a clover sod for corn and also for wheat and rye, by sowing your clover seed on the ground with the flax, and so letting it lay the same length of time that you do the clover sowed on your winter grain, and by this means the ground is kept from exposure to the sun through the heat of summer, which certainly injures the land more than if a crop of clover were standing on it. In the first place suppose you have your fields in the following manner: two with clover, one with harvest, one with corn, and the other with flax the ensuing spring.

First year.	Corn,	Clover,
Second year.	Oats, Flax&c.	Green grain,
Third year.	Clover,	Clover,
Fourth year.	Green grain,	Corn,
Fifth year.	Clover,	Oats, Flax &c.

☞ Same directions as above.

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Green grain,	Corn,	Clover.

And keeping on so five years in succession, as above stated, you will soon see the result by turning down a clover sod every year for corn and winter grain, and thereby enriching your farm, not only by turning down clover but by raising so much straw to make manure of, that you can raise wheat on every part of your farm.

Some experimental farmers now, in the succession of their crops, Rye in the 2d and 4th routine, in place of oats, under an impression that it is not so great an impoverisher of the soil.

Extracts from the Pennsylvania Agricultural Society.

OBSERVATIONS ON INDIAN CORN, BY MR. JOHN LORAIN.

The traces of numerous original corns, are evidently seen in our fields and gardens. Only five of those are in general use for field planting. First, the big yellow and white, in size and form very much alike, the cobs, long and thick, the grains are large, firm, and without indenture; but their size consits principally in their width, which is greatest near the cob, and from this point, the rotundity of their outside surface forms a very considerable vacuity between the rows, and a large circumference, being filled with a few rows of very wide grains, which are short even at their deepest points, covers an extensive surface, without introducing measurement in proportion to the size of the cobs. Secondly, the little yellow and white, resembling each other in size, form and texture, producing still harder grains, more compactly arranged, but not sufficiently so, which, with shorter and slimmer cobs, render them less productive than the two first mentioned, but they ripen early, and are considered safer crops in high latitudes. Thirdly, the goard-seed. The cob of this is neither so long or thick as the large, solid corns; but the grains are very long, forming a compact round, from the cob to the outside surface of the ear, and gradually taper to a point, where they join into the cob; of course it is vastly more productive than any other known original corn, but ripens late, and the grains are too soft and open for exportation, unless kiln dried. This variety, so far as my observation goes, is inva-

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riably white; for although I have frequently heard of a solid yellow goard-seed corn, yet on investigation, nothing more has appeared than a mixture of the hard yellow corns, with the white goard-seed. If such an original, firm yellow corn, equally productive with the white goard-seed, could be procured, it would be invaluable; but by forming a judicious mixture with the goard-seed and the flinty corn, a variety may be introduced, yielding at least one third more per acre, on equal soil, than any of the solid corns are capable of producing, and equally useful and saleable for exportation. But this mixture should be with the yellow corns; that colour being greatly preferred by shippers, and is most productive, it having the longest and thickest cobs, and would at least compensate for shortening the grain of the original goard-seed; provided a sufficiency is introduced to lengthen the grain so far as will be consistent with retaining solidity, and that yellow tinge required to make it saleable.

The proportion of the big yellow with the goard-seed, may be determined by the length and thickness of the cob, with wide grains; and of the little yellow, by shorter, slimmer cobs, with narrower grains, of a brighter yellow tinge, and an increased number of rows, in proportion to the width of the grains, and size of the cob; which sometimes amount to upwards of thirty, and seldom less than twenty rows. This sort is firmer and handsomer than that formed of the big yellow, and better calculated for high latitudes, but not so productive. I am induced to believe, that by combining those three, the most valuable properties of each, might be concentered in one variety, in a much greater degree, than at first sight appears, by selecting the ears with the greatest number of rows, compactly formed on the cob, and ripening early. The experiment is easy, and the prospect promising; for in the present unimproved state of that plant, from ninety, to more than a hundred bushels of shelled corn, per acre, have been frequently obtained, and when the seed has been improved, and the arrangement and cultivation of the plant better understood, it does not appear unreasonable to suppose, that one bushel per perch, (169 bushels per acre,) will be obtained with equal facility.

The prevailing opinion is, that the cultivation of this plant is preeminently injurious to the soil, this opinion has been produced by a bad system of management, originating from a thin population, deficiency in capital, and an abundance of fresh, uncultivated lands, for those causes have retarded the progress of all improvements in husbandry.

The product of Indian corn being vastly more abundant than any other corn crop, it will demand a due proportion of nutriment from the soil, but will also return much back to it again, even when the grain is not expended on the farm; for the fodder from one acre of luxurant maize, is fully equal in quantity and nutriment, to one ton of good hay, and the stalks more than equal in value to one ton of straw, for littering the cattle yard; and but few, if any other summer fallow crop, is capable of returning back to the soil, half this amount, unless the most nutritive and most valuable proportion of the crop is added to the amount; and if the grain and fodder of a

crop of maize are applied to the fattening of cattle, it will be found much more profitable than turnips and potatoes from the same quantity, and equal quality of land, notwithstanding a statement directly opposite to this assertion has been published, by a very respectable writer on agriculture: but that statement will be found replete with error throughout; for here again, Indian corn, without manure, produced 15 bushels per acre; potatoes manured, produced 200 bushels per acre, the expense of ten acres of potatoes manured, rated at 36 dollars and 60 cents, when it actually cost nearly double that sum to remove them from the ground, and secure them properly.

That Indian corn does not exhaust the soil more than potatoes, appears clear to me, from some mixed crops of those plants, which were grown on my farm. After the ground had been equally manured, one row of corn occupied the same quantity of soil as was assigned to two rows of potatoes, throughout the fields: the plough was too frequently used in the cultivation of the potatoe crop, and sufficiently in the cultivation of the corn, of consequence, a communication between the corn roots with the potatoes was too effectually cut off. Those crops were removed in the fall, and the grounds immediately sown with wheat, and no perceptible difference was ever discovered in the crop growing either where the corn or potatoes had grown, even where the ground had been but once ploughed for seeding, and that too in the same direction the corn and potatoes had stood.

Corn should be planted early, more especially in high latitudes, where the farmer's expectation is frequently blasted by an early frost, or a cool spring and summer procrastinating the growth and maturity of the plants; and this evil is increased, if he cultivates the larger and more productive corns, not only as it affects his crops, but also as it establishes the erroneous opinion, that they cannot be grown. But I had been prepared to encounter those false opinions, having planted, my crop much sooner than my neighbours, and observed that maize, in the early stages of its growth, was not subject to such injury from frost, as was generally supposed. For though its tops were frequently turned yellow, and sometimes severely scorched, the roots were established early in the soil, and the plants pressed forward with great rapidity, and no question with me, derived at least as great advantage from early planting, as barley, or any other spring crops. And it frequently occurs, that the weather is more favourable for vegetation in April, than in May, at the usual time of planting; and the ground, early in the spring, is less subject to become dry and crusty, which often prevents the plants from penetrating the soil. The Indians' ideas of planting, are suited to their limitted observation; but we see those trees which are generally in blossom at the time of planting corn, are sometimes in full bloom, in February and March.

For dropping the seed, cut an elder stalk of about one inch in diameter, just below a limb, which will form a handle; cut and hollow it out above, to hold the number of grains planted, paring the upper edge thin: with this and a small basket, a little boy or girl may drop three times more than a man in the usual way, and more cor-

rectly. If two plants are designed at each angle, eight or ten grains should be planted, for numerous birds, and cut-worms, will have their share, and some of the seed will rot, and many that vegetate will not get through the soil.

The seed should be covered no deeper, than one inch, with the loosest, moistest, and best mould at hand; and no clods, or other obstacles introduced; moderately patting this covering with the hoe, to secure the moisture. If the soil should form a crust over the seed, near the time of its coming up, the clusters must be daily examined, and when the points of the plants turn downward, they should be liberated immediately, by carefully breaking the crust. I have saved one field of corn by this practice, which must have perished without assistance. This may be readily done, with a small rake, the teeth formed with nails, whose edges have been previously blunted: but a three forked hook, in the form of those used by gardeners, is preferable.

A grass lay is vastly preferable for corn. The very minute division of the soil, by its innumerable roots, with their fermentation and decomposition, furnish considerable heat and nutriment, and introduce cavities in due proportion to the number of roots, keeping the soil open and mellow, for the ready admission of the corn roots.

OATS.

There are varieties of this grain, distinguished by their different colours, the white, the black, the grey, and the brown oats; but as these differ only in colour, they are not considered as distinct species.

The white oats, which are most commonly cultivated in this country, are generally preferred in other countries, as producing the best crops. But I suspect that sufficient trials have not yet been made here, in the culture of the black oats. The produce of them from a few grains sown in the garden, has been astonishing. But this might be owing to the newness of the seed in our climate, or to some circumstances less considerable, or less obvious.

There is also a species of the naked oats. This one would think, must have the advantage of other oats, as it is threshed clean out of the husk, fit for grinding. But with this grain we are yet unacquainted.

I have lately met with the Tartary oats, which resemble our white oats, but differ in their manner of growing. They bear very plentifully: but are rather apt to lodge.

Oats cannot be sown too early in the spring, after the ground is thawed, and becomes dry enough for sowing. The English farmers sow them some time in February. But in a wet soil they sometimes answer very well, though sowed in June.

Three bushels of seed is the usual quantity sown on an acre. This quantity some say will be rather more than enough on a rich soil. If the soil be poor, the quantity of seed should be the greater, say they, as the plants will be smaller, but not taller; and so may stand the nearer each other without crowding. But this is a matter of opinion only, and may be a mistake.

Oats are so apt to rob the land of its richness that they should

not be sown on the same spot twice in succession, unless the soil be very plentifully manured. In a succession of crops, oats may sometimes be sown to advantage the first year after the breaking up, before the land can be made mellow enough for other grain. Or they may follow wheat or barley. In the latter case, the wheat or barley stubble should be ploughed in as soon as the crop is off.

FLAX.

Such crops of flax as are usually raised do not pay for the labor bestowed on them. This must be owing to bad management. As this is a crop that the farmer must raise, if he has any regard for domestic economy, the means of raising it to advantage should be duly attended to.

A good method of raising a great crop of flax is as follows: summer fallow a piece of ground of suitable soil, and give it several ploughings and harrowings, during the summer, so as to destroy all the seeds of weeds. Apply your manures during the first ploughings, unless they be composts, or top dressings; at all events, let the soil be eventually made rich enough for hemp.

The next spring, mellow the ground well again by two or three ploughings, harrow it, and sow, of well-cleaned seed at the rate of about three bushels to the acre, and harrow it in lightly. Give the ground a top-dressing, of about for bushels of fine salt to the acre, and also some gypsum, if the soil be suitable. Let the crop be sown about the first of May, or as soon as the ground can be effectually prepared, after vegetation has commenced. By a proper change of seed, five or six hundred pound of flax may be expected from this method of culture, to the acre, of a fine quality.

This is probably about the best culture, and all deviations from it, by less expensive methods in preparing the ground, will, generally, be so much for the worse. Ground may, however, be pretty well prepared for a good crop by previous hoed crops, which have been well manured, particularly if pains be taken to prevent any weeds going to seed in the fall. Weeds are the enemy of flax; and no good crops can be raised on ground that is full of their seeds, even though it be sufficiently rich and well prepared.

In addition to the requisites of a rich earth, free of the seeds of weeds and well mellowed, for obtaining a good crop of flax, another requisite is, that the ground shall not have borne flax, for several years previous to the time it is to be sown with this crop. Almost every soil, that is sufficiently dry for a proper degree of fermentation, may, by being well prepared, as above directed, be made to yield good crops of flax, unless the soil has too little moisture, as may be the case with dry gravelly and light sandy earths.

But a very essential point, in raising great crops of flax, is to have frequent change of the seed.

The quantity of seed sown should be proportioned to the strength of the soil. Flax of good length, but coarse, may be raised on a soil far from being rich, if it be well mellowed, clear of weeds, and sown with not more than three pecks of seed to the acre. We have seen four hundred and fifty pounds raised from one bushel of seed, sown on better than an acre and a half of ground. Such flax

is, however, not so well fitted for fine spinning. Where the stalks stand so thin as to branch at the roots, they also branch widely at the tops, and, though more seed is in such case to be expected, still the lint will be less in proportion, and of a coarser quality.

POTATOES.

This root is a native of this country, and was first carried to Europe by Sir Walter Raleigh. When boiled, it is a wholesome and nourishing food for man or beast. Many families in Ireland subsist on potatoes and milk, and often on potatoes only, with a little salt; yet these are as healthy, vigorous, and well-made as any people in Great Britain.

Potatoes are usually cultivated from the roots; but they may be also raised from the cuttings of the top branches, when set in the ground; and these will strike root, even if planted bottom upwards. The sprouts taken from potatoes will also grow. The root itself will not grow, if planted the same season in which it has been raised.

Potatoes may be raised to advantage in various kinds of soils; provided they are sufficiently rich, or well manured. They will even grow in peaty grounds, where no other plant could be raised to any advantage. Stiff clays, and cold wet soils, are not so well suited for them. Coarse crude manures, turf, old woollen rags, &c. are all good for them. Any manure, that serves to keep the ground loose and mellow, seems well adapted for the growing this plant.

Sward grounds are commonly best adapted for their culture. The method commonly pursued in England, for raising the crop, is, we believe, the most expeditious, and, at the same time, as well calculated to ensure good crops, as any other, and is as follow.

Break up the ground in the fall, if it be a sward, and give it a good harrowing, at a suitable time, the next spring; then spread, of barn-dung, or other suitable manure, at the rate of about twenty loads to the acre, over the ground, when it will be ready to commence the operation of planting.

In order to this, begin with running a furrow, of a suitable depth, and into this furrow the dung lying on the surface is drawn, from a distance of about twenty-seven inches along next the furrow, and distributed evenly along its bottom. On this the potatoes, cut in pieces, are laid along, about eight inches apart, and they are covered by the next furrow. Then two more furrows are run, the second of which is to be the bed for the next row, and the dung is again drawn into this, and the seed laid, as before, which are again covered by the next furrow; and so the work proceeds. The rows in this way are in every third furrow, or at the distance of about twenty-seven inches apart.

If the seed potatoes are not cut in pieces, but planted whole, they should be laid about eighteen inches from each other; and in this case the dung should be collected more together, at the places where the potatoes are to be laid. There is very little gained by cutting the seed in pieces for planting.

When the plants have risen about six inches above ground, it is to have a good harrowing, across the rows; and the hoe is to follow, for the purpose of setting the plants right, where covered, and drawing some earth round them.

In due season, a furrow, with the one-horse plough, is to be run on each side of the rows, with the earth thrown up to the plants, which is to be followed with the hoe, which completes the process for raising the crop. If any weeds should afterwards rise, they should be cut up with the hoe, so that none be allowed to go to seed in the fall.

As soon as the blossoms appear, they should all be taken off: as this, by experiments which have been accurately made in Massachusetts, is found very considerably to increase the crop.

FROM THE N. E. FARMER.

SHEARING SHEEP.

Bristol (R. I.) March 14, 1825.

Mr. Fessenden—The following observations on the *early shearing of sheep*, were communicated to me by Mr. Rouse Potter, Prudence Island, Narragansett Bay, in this state; and as his practice is different from the common one in general use, which you are at liberty if you please, to publish in your useful paper.

Mr. Potter begins to shear his sheep by the first of May, if the weather is favourable; and continues daily until he completes his shearing. For the first week, he puts those sheared under cover, or in close yards every night, and if the weather should prove unfavorably cold, or stormy, he keeps them up day and night. By that time the wool will start and grow so as to give them a sufficient covering. By this practice of early shearing, he gains much wool, which formerly, when he put off shearing until the middle of June, the sheep would shed, and further, when thus early sheared, the wool immediately afterwards begins to start, and grows much quicker than when shearing is delayed to the usual time. He says formerly being exposed immediately afterwards to the rays of the sun, their bare backs would frequently become sore and scabby, where no wool will grow until healed, and then what does grow from these scars is thinner and coarser.

It may be observed that Mr. Potter has at present, 950 sheep, which is his stock; and says that he has lost but two the last winter. Mr. Potter does not wash his sheep previous to shearing. With great respect, yours, &c.

LEMUEL W. BRIGGS.

MILLET.

I had been accustomed to sow *millet* in loose and well stirred ground. This season (1823) I was led to try an experiment, with great doubts of success. I broke up an old grass lay by ploughing 8 inches deep. I rolled it with a heavy roller; sowed 3 pecks of millet to the acre, and harrowed in the seed together with a heavy coat of *lime*, repeating the harrowing till the surface was well pulverized. The crop looked, at first, very discouraging. But, perhaps assisted by our wet season, which may not have been favourable to loose soils, it suddenly began and continued to grow so luxuriantly, that I have never had, nor have I ever seen a superior crop. It was on an average, five and six feet in height, and many stalks measured seven feet; with heads heavy and large in proportion.—*Oats* were sown in the same field, adjoining the millet, and were highly promising. But the rains laid them, and I lost one half of the grain. The millet resisted

all injuries, and kept down the weeds; whilst these pests grew profusely among the oats. I do not however, value millet the more, when its growth is immoderately luxuriant. The straw in such case, is coarse; yet the cattle do not reject it.

I thought my case was novel and singular. But, at a meeting of our Blockley and Merion society of agriculture, two or three members informed us of equal success, in a similar mode of culture; but I believe, without fresh lime.* Their crops were far better than those of their neighbours, sown in loose ground.

I confess I suspect that our great crops owed more to good luck than to good farming. Yet, if circumstances compel me to repeat this mode, I shall try it again with more confidence.

The millet has left the field on which it grew, clean and light.—But the part occupied by the oats, is left foul and heavy.

There are different opinions, as to millet being or not a great exhauster. Of this, I am certain, from experience and frequent observation, that better crops of winter grain succeed millet, than any I have seen after oats, buckwheat, (unless it be ploughed in,) or even potatoes; all of which are scourging precursors of wheat.

R. PETERS.

FLAX DRESSING.

The Albany Argus announces the invention of a perfect method of dressing flax in the straw, without either dew-rotting or water stewing, or exposing it to any chemical action. This important discovery, says the Argus, has been made by Mr. Roamage, a respectable French gentleman who is now at Albany, for the purpose of making it generally known; to encourage farmers in the cultivation of flax; and to consult with others as to his choice of an establishment in this state. We understand he requires flax to be drawn from the ground just when the seed is beginning to change colour, to be dried a little in the sheaf, and to be delivered to him when threshed, in the straw or hay state, without any rotting. We learn also that he offers twenty dollars a ton for it in this state, which persons conversant with the subject say is a very remunerating price.

FULLER'S THISTLE.

The heads of these are used for raising the knap on fine woolen cloths. From their present scarcity, in our infant Manufactories, they command a great price, and are, therefore, worthy of attention.

Sow the seeds, at the rate of about a peck to the acre, about the first of May, on ground properly prepared by ploughing and harrowing. Keep down the weeds by hoeing, and let the plants stand about a foot asunder: all the rest are to be cut away. Hoe them as often as the weeds rise. The heads do not form until the second summer. When they are fit to cut, which will be about the first of August, let them then be cut, tied in bundels, and dried, under cover, or in the open air, according to the state of the weather.

The heads have sold, in our Woolen Factories, for a cent a piece, and sometimes double that price. An acre, at this rate, would amount to several hundred dollars.

*I do not consider the fresh lime of any advantage. It is rather prejudicial to any crop: unless it have time to subdue its causticity, and mix with the soil.—In moderate applications, Indian corn is sometimes benefitted by it. I have been in the habit of liming land, from early life to this time

ON PYROLIGNEOUS ACID.

By George Houston, of New York.

The most valuable use to which this acid may be applied, is that of curing meat of every description, so as to preserve it from flies, and from putrefaction in hot weather. It has been ascertained by innumerable experiments, that it contains the same properties of preserving animal matters, as smoking them by wood does; and that the only difference in using it and drying by the present mode, is merely in the application. In the one case, the meat is acted on during the distillation of the acid while the wood is burning in the smokehouse; in the other, the acid, already formed, is, applied by immersion or by the brush.

Since the experiments of Mr. Stotze, at Halic, several successful applications, of the acid, in this way, have been noticed in the English journals. Two specimens of meat were some time ago, exhibited at a meeting of the Philosophical Society, Whitehaven, which had been prepared with the acid on the 7th September, 1819. One of the pieces had been taken to the West Indies to try the effect of the climate, and the other was hung up at home. After the lapse of 15 months, i. e. Jan. 1821, they were tasted by the members of the society and found perfectly sweet, fresh and fit for use. Our journals also have mentioned instances where the acid has been used in the preparation of meat, and the result has been equally satisfactory. But nothing has appeared of a positive nature, in either country, by which the mode of applying it could be distinctly understood. In one instance, the acid was put into the tub after the meat had been sufficiently saturated with the pickle; and in another it was not applied till after it was removed from the tub, and had hung in the open air for a day or two. The quantity of the acid used, has likewise been differently estimated, according to the different modes of preparation which have been adopted.

With the view of satisfying myself on the subject, I caused six pieces of beef usually selected for smoking, and weighing about 15lbs. each, to be cured with salt, saltpetre, and sugar, in the ordinary way, and when they had been about four weeks in the pickle, they were taken out and hung up for 24 hours; after which they were moistened by a brush, with nearly a quart of the acid. In a few days they had all the appearance of smoaked beef, and when cut in slices, no difference whatever could be discovered between them in flavour and taste. Some hams and tongues, prepared in the same manner, showed a similar result.

In point of economy, the difference in the two modes is very striking. The expence of smoking a hundred weight of meat, is thirty-seven and a half cents; the cost of the acid for the same quantity is only six cents. But what is of still greater importance is, that when the meat returns from the smokehouse, it generally weighs about a third less than when sent thither. Prepared with the acid, no diminution in the weight takes place, while the juices of the beef and hams, which are dried up by the fire of the smokehouse, are entirely preserved in the new process. Add to this, that in using the acid there is no danger of the meat being changed, or of its passing through the hands of persons who may not be altogether attentive to cleanliness, considerations

which are of no small importance to those who are careful in regulating their household affairs.

Accompanying this communication is a piece of beef prepared by me about two months ago, and a part of the acid used by me on that occasion. The beef has been fully exposed during the whole of that period, and although the weather has not been so warm as is usual at this season, I have no doubt that it is unassailable by flies, in the hottest part of the year. When sliced and broiled, it relishes as well as the best beef stake.

The acid is in the same state in which it was when it first came from the still. It is divested of its color by subsequent distillation; but as this deprives it of its essential oil, the cause of the smoky flavor given to the meat, any alteration in its present state must diminish that flavor and probably, materially effect its antiseptic qualities; consequently, render it unfit for curing meat.

I have been assured that fish may be preserved for any length of time, by the pyroligneous acid. This appears extremely probable—salmon, shad and herring, are cured in smokehouses, in the same way that meat is cured; and there seems no doubt that the acid would produce a similar affect. It might also be used to preserve beef and pork for a considerable period, without the trouble and expense of salting.

NATIVE OIL.

Finer and sweeter oil no country can supply than what we can with little trouble and expense prepare for ourselves. The tall annual sunflower will prove this: its seeds, bruised and pressed, will yield an oil as sweet and as fine as that we can import from Florence. From a bushel of this seed, a gallon of oil may be drawn, and with this advantage, that it can be obtained at any time, quite soft, bland and fresh. The seed also, and the mass that remains after the expression of the oil, are of an excellent use to feed hogs and poultry. But besides these uses, the growing plant is of eminent service; it having been proved that nearly twenty times as much pure dephlogisticated air is exhaled from one plant in 24 hours in light and clear weather, as a man respires in a vitiated and impure state in that space of time. Hence the inhabitants of close, ill-aired, and unwholesome places should be diligent in its cultivation.

A NEW DISCOVERY IN THE ART OF DYING.

In the course of last autumn, I accidently met with some yarn in a family of humble life, the color of which attracted my attention, and induced me to inqure into the process of dying it. The information I received was to cut off the end of the largest pumpkin that could be obtained, the seed only taken out, the yarn and as much pokeberry juice poured in as the pumpkin would hold, which should be set away in a warm place, the yarn frequently opened, and in about 9 days it produces a permanent lillack or crimson color. It is to be washed out in soapsuds.

ON THE PRESERVATION OF POSTS.

To the Corresponding Secretary of the Pennsylvania Agricultural Society.

Phila. Feb. 2d, 1824.

Dear Sir—In accordance with my desire to promote the inter-

ests of agriculture, and with your request, to communicate my experience of the benefit to be derived from the application of salt in the preservation of posts, without entering upon the theory, I will give you the result of twenty years practice, and the mode which has fully realized my most sanguine expectations. In 1803 I planted four gate posts of Delaware oak, of very inferior quality; a two inch auger hole was bored through them, which was filled with salt, and pluged at both ends. As they were to support highly finished gates, they were cased with boards, and some salt was put inside of their case near the ground. The posts are now as sound as when put down, and bid fair to last for some generations to come. This experiment was tried under the most unfavorable circumstances, as the posts were so much worm-eaten, that my carpenters were averse to finish them, under the belief that they would not last five years.

I have since applied salt to the posts of rail fences, by boring an inch auger hole, about four inches above the ground, diagonally across the post, so as to reach about two or three inches under ground; the hole is filled with salt, and closed with cedar and chesnut plugs. With the result I am well satisfied, as I have not found any decay among them, altho' I have several thousand so prepared.

It has been observed, by some who have seen them, that the salt would in time dissolve, and by leaving a hollow in the post to retain the moisture, cause its decay. I have not found that the salt diminishes to any extent; and if it should, it must penetrate the wood, and thereby prevent decay. But to obviate such apprehensions, nothing is easier than to draw the plugs, and fill them again with salt at the expiration of the eight or ten years, or when required, which would be at a very distant period. This can be done at less than a cent a post, exclusive of salt, which must be admitted is preferable to planting them anew. I have usually paid the workmen a cent a post for boring, filling, and plugging: they generally earn two dollars a day. A judicious farmer on viewing my posts, observed he could see no reason why salt should not preserve wood, when it preserved so perishable a vegitation as cabbage during many years.

If I have been prolix, be pleased to attribute it to my zeal in my most favorite pursuit; and with much esteem, I remain yours,

WILLIAM PHILLIPS.

BLIGHT ON PEAR TREES.

With a notice of an article on the same subject in the Northamton Gazette.

For twenty years past, pear trees throughout the United States have been subject, in mid-summer, to a disease of a very extraordinary nature. Sometimes one limb, sometimes nearly the whole tree, has appeared with all the fruit standing, to perish in forty-eight hours without any apparant cause. Gardeners called it 'fire blight,' and attributed it to lightning, but as no violence appeared upon the tree, as none of those terrific effects were perceived, which always accompany that destructive, tho' probably useful instrument of nature, I was led to doubt whether electricity had any share in the mischief. I was pleased to see that some gentlemen in Northampton had adopted professor Peck's solution, because it proved,

that scientific researches, though not *immediately* noticed, are ultimately useful.

As the pear tree is very valuable, and in all its varieties furnishes, most delicious fruit from July to May, I think it a duty to state the history of the discovery made by professor Peck, and the certainty of success which must follow the adoption of his, I will not call it theory, but discovery. My neighbours had been long afflicted by this scorge. I had been fortunately exempt from it. At last one of my most healthy and valuable trees was attacked—nearly half the tree perished in a night. I could perceive no violence, no symptom of electric force. I was convinced that it was the attack of some internal enemy. I instantly sawed off all the limbs affected, and proceeded to examine them. I found at last the enemy, not *at the point* where death ensued, but some inches below it. The insect was very small, apparently incapable of such extensive mischief, but the effect was certain and the manner of producing that affect was obvious. It had eaten a complete circle of the alburnum or sap wood, not exceeding the size of a knitting needle, so as completely to intercept the passage of the sap. I found the insect in three different limbs, and not in the larvæ but in the perfect state; it was not however prepared in point of strength to issue forth, and by its eggs to deposite the means of new depredations. I carried it over to professor Peck, and hence arose his account of the insect, which proved to be of the race of wood-eaters, and though a new and undescribed one. The most important *fact* however is, and it is by *facts* alone that gardeners and farmers must be governed, that by steadily pursuing the system of cutting off the limb, many inches below the apparent injury and burning it, I have extirpated it from my estate.

A FARMER.

FROM THE AMERICAN FARMER.

ON THE DISEASE IN CATTLE COMMONLY CALLED THE HOLLOW HORN.

Mr. Skinner.

There is, perhaps, no disease, in this climate from which our neat cattle have suffered so much, as that commonly called the Hollow-Horn; and unfortunately, few persons have thought it necessary to give any attention to it or its cure, for we find but little said in any agricultural work relative to its treatment.

The name appears to me to be badly applied, as the horn alone is not the seat of the disease; it pervades the whole system; and cattle without horns are quite as subject to it, as those with them—having often seen those without horns have it.

The hollowness of the horn, proceeds from the violence of the fever throughout the system. I have known cattle feeding in the stall to be attacked with it, as well as those in poor condition, and no doubt those in bad plight are more liable to its attack, their system not being in a state to resist any disease, it occurs too, at all seasons of the year but more particularly in the spring.

The animal attacked with it looks rough in its coat, stares much, and falls off very fast in flesh, its food having but little effect in nourishing it. The eyes look very hollow and dead, and run with yellow matter which col-

lects in the corners, and around them. Many persons rely upon the feel of the horn, as the best indicative of the disease, but this I think very uncertain; in some cases it is at the root, cold to the feel, while in others very hot. A very small gimblet hole, however, removes all doubts, and the mark on the horn not visible after a few days. If the disease does exist, the horn will be found without pith, and little or no blood will follow boaring, whereas if the disease does not exist you will find blood immediately upon entering the horn. The gimblet used for boaring, should be well washed and greased after using: for if it is not, and should be used to try the horn of an animal not actually affected with the disease, it will most generally give it to them. It is a disease that is highly inflammatory and infectious; and the animal having it, ought to be removed from the herd until well. The following mode of treatment, I have found very successful, and the beast soon restored to a thriving state. As soon as I discover an animal affected with the hollow horn, I bleed it from the neck (in the same vein in which a horse is bled) from two to six quarts, according to its age, size and condition, and give from three quarters to one pound and a half glauber salts; with a middle sized gimblet open the horns through and through, making the holes so that they be perpendicular in the usual position the animal carries its head, so that the pus formed may have a free discharge as soon as the horns are opened; put thro' the hole into each about a table spoonful of vinegar, in which some salt and black pepper ground, has been put. The day following, the horns must be again opened and cleaned from the pus, which generally is now formed, and about a half a teaspoonful of spirits turpentine put into each horn, and a little on the poll of the animal daily, during the continuance of the disease. One bleeding is generally sufficient; but I have known cases in which it was necessary to repeat it three times, as also the salts.

The food during the continuance of the disease is important—corn in every shape is bad—potatoes are of great use, (with a small quantity of Brewer's grains, if to be had,) and the animal ought to have from one to one and a half pecks daily, with hay in the winter, and grass if in summer.

Potatoes have a wonderful effect on the animal as soon as the bowels are well cleansed, the importance of which, any person will be convinced of, who observes the discharge from the animal. In some obstinate cases I have given daily from a half to one ounce of nitre, sprinkled on the potatoes. It is important at the first bleeding, to take as much blood as the animal will bear, as the fever is more easily checked by one large bleeding, than two small ones, and the animal better able to bear it. In many cases the bleeding and salts have been sufficient, without opening the horns, and when taken in the early stage will generally be found to answer, but the boaring certainly assists in forming anew the internal part of the horn, and which, as soon as it commences forming, the holes in the horn should be allowed to close.

An animal having the hollow horn, should be sheltered from the inclemency of the weather, during its continuance. No age appears exempt from its attack, having seen it in a yearling as well as all

subsequent ages. I am induced to offer this mode of treatment to your subscribers, having never in any instance failed of restoring the animal, whereas before this mode of treatment was adopted I annually lost several. The fleam for bleeding cattle should be rather deeper than that used for a horse, the vein in the neck not laying so near the surface, the orifice is closed with a pin, in the same way as in bleeding a horse.

AN AGRICULTURALIST OF DEL.

FROM MEMOIRS OF THE BOARD OF AGRICULTURE OF THE STATE OF NEW YORK.

ON THE MANAGEMENT OF COWS.

By Russell Woodward, of Suffolk.

Having formerly kept a large number cows, I observed many amongst them that dried up their milk so early in the fall, that they were not profitable, while others with the same keeping, gave milk in plenty until late in the season. I likewise have often heard my neighbours observe, that some of their cows, though very good in the fore part of the season, dried up of their milk so early, that they were unprofitable, and they should have to put them off; I accordingly found it expedient to find out the cause, if possible: and when I brought to mind the ways that some of my young cows had been kept and milked, I attributed the cause to the milking of them the first season they gave milk; and by many experiments since, I have found that young cows, the first season they give milk, may be made, with careful milking and good keeping, to give milk almost any length of time required, say from the first of May to the first of February following, and will give milk late always after, with careful milking. But if they are let to dry up of their milk early in the fall, they will be sure to dry up their milk each proceeding year, if they have a calf near the same season of the year; and nothing but extraordinary keeping will prevent it, and that but for a short time. I have had them dried up of their milk in August, and could not by any means make them give milk much past that time in any proceeding year. In 1820, I had two heifers, which had calves in April, and after getting them gentle, I set a boy to milk them for the season, (which is often done the first season, on account of their having small teats:) he was careless, and dried them both off in August. Although I felt satisfied I should lose the greater part of the profit of them afterwards, yet I took it upon me the following year to milk them myself, and give them good feed, but to no purpose. I could not make them give milk much past the same time they dried the year before. I have two cows now that were milked the first year they had calves, until near the time of their calving again, and have continued to give milk as late ever since, if we will milk them.

EXCELLENT METHOD OF RAISING CALVES, AND OF PRESERVING THE CREAM, AND A GREAT PART OF THE MILK, DURING THAT TIME.

Put some water on the fire, nearly the quantity that the calf can drink. When it boils, throw into it one or two handfuls of oatmeal, and suffer the whole to boil for a minute. Then leave it to cool until new milk warm. Then

mix with it one or two quarts of milk, that has stood twelve hours, and has been skimmed; stir the whole, and give it to the calf to drink. At first it is necessary to make the calf drink by presenting the finger to it, but it soon learns to do without this help, and will grow incomparably faster than by the old method. This new method is not only a theoretical truth, but its success is confirmed by experience.

The economical advantages resulting from it are as follows. According to the old method, a calf intended for the slaughter is made to suck for three weeks, and those intended for agriculture from six to eight weeks. Supposing the cow gives only a moderate quantity of milk, the value of it will amount, in three weeks, to nearly the value of the calf. If, on the contrary, we rear a calf according to this method, we consume during the three weeks only three quarts of oatmeal, at most, and the skimmed milk.

Calves that have been brought up by this method have been always healthy and strong, and not subject to diseases. They are not suffered to suck at all, but to have the pure milk of the mother to drink for the first four days, because it has been observed, that the separation, after four days, is more painful to the mother than when the calf is taken from her soon after its birth.

PRUNING FRUIT TREES.

Very different opinions have prevailed respecting the best season for trimming (pruning) apple trees. I believe it to be injurious to trim them much at any season.

Ten years ago I purchased a farm with a large thrifty orchard, admitted to be one of the best in the town. It had never been trimmed. Thinking to improve it, I began with a very abundant trimming. A judicious neighbor came along, and observed that I should only hurt my orchard by so close trimming, and pointed to several orchards which had been much trimmed, and remarked that they were, at an early period, in a state of decay. And ten years observation has proved to me the truth of the remark.

Trees that are set at a proper distence, so as not to interfere with each other, will not need much trimming, except to cut off a few limbs that cross and chafe each other, dead limbs, and limbs that droop by the weight of the fruit, so as to render passing under them difficult. If the limbs become in any place too thick, the superfluous will die. In that case the limb hardens and becomes very durable, and when cut off, there is no danger of its rotting and leaving a hole in the trunk.

To leave an orchard in this state, I know may look slovenly. But too much trimming is like too much doctoring; it is sure to destroy health, if not life itself.

But if you trim, let it be in March or April, agreeable to immemorial custom.—That trimming in summer injures trees, I infer from the following facts. In the year 1817, several white oaks stood scattered in a pasture that I now own. The lower limbs on these were cut off in June, I suppose to prevent too much shade to the pasture.—About three years afterwards, when the land came into my possession, I had these trees cut down, and found every one of them in a state of decay from the heart to a ring on the outside, most of which had grown

after the trimming. These oaks were from 8 to 12 inches in diameter, and the whole centre of the body was filled with white spots, which indicate an insipient rot, was brittle, and evidently the trees would have become hollow at no very distant period.—The same facts I observed in some trees of the sugar maple, that I trimmed myself; and I never observed such effects in trees that had not been trimmed at this season.

These facts I account for in the following way: The cutting off the limbs stops the ascent of the sap when it is flowing in the greatest abundance, and it lies stagnant in the body at the hottest season of the year, and causes a rot, as stagnant blood in the animal system tends to mortification.

These trees were injured in their growth, as might be expected from the rotten state of the heart. The external rings, that grew after the trimming, were not as large as those that grew before.

I furthermore conclude that trimming trees in summer is injurious, from the fact that bushes that are cut, and trees that are felled in August, are almost invariably killed, while those that are cut in winter send up a very vigorous growth of young shoots.—Cut all the limbs off an apple tree in March, and so far from killing the stump, you will find, in the proper season, an abundance of new shoots. But perform the same operation in August, and you will find a very different result. Now I believe that after the growth begins in the spring, the season becomes more and more unfavourable for trimming, till the vegitation of the tree begins to mature in the fall, which is indicated by the turning of the colour of the leaves from a deep green to a russet.

FROM THE TECHNICAL REPOSITORY.

Observations on the accidental intermixture of character in certain fruits. By Mr. John Turner, F. L. S. assistant secretary to the London Horticultural Society.

In the course of the two last seasons, several specimens of fruits came within my observation, in which a deviation from their true character was very perceptible. In remarking on the evident intermixture of colour, form, and flavour, which some of these fruits presented, I did not hesitate to ascribe it to the farina of one variety having come in contact with the flowers of another, at the moment when the stigmas were in a proper condition to receive it; and, on mentioning my opinion, I was surprised to find, that the fact of such intermixture producing an *immediate* change in the fruit, was generally doubted, and by many persons pronounced to be impossible. This led me to enquire, whether the subject had ever before engaged the attention of horticulturalists; and, not to go farther back than the beginning of the last century, (though both Theophrastus and Pliny seem to allude to it) I found that the notion was entertained by Bradley, who, in his *new improvements in planting and gardening*, after giving directions for fertilizing the female flowers of the hazel with the pollen of the male, says,—"By this knowledge we may alter the property and taste of any fruit, by impregnating the one with the farina of

another of the same class; as, for example, a Codlin with a Pearmain, which will occasion the Codlin, so impregnated as to last a longer time than usual, and be of a sharper taste: or if the winter fruit should be fecundated with the dust of the summer kinds, they will decay before their usual time: and it is from this accidental coupling of the farina of one kind with the other, that, in an orchard where there is a variety of apples, even the fruit gathered from the same tree differs in its flavour and times of ripening; and, moreover, the seeds of those apples, so generated, being changed by that means from their natural qualities, will produce different kinds of fruit, if they are sown."

In the *Philosophical Transactions*, also, for the year 1745, the subject is noticed by Mr. BENJAMIN COOK, in a paper, *Concerning the effect which the farina of the blossoms of different sorts of apple-trees had on the fruit of a neighbouring tree.* In this communication, it is stated, that Mr. COOK "sent to Mr. PETER COLLINSON, some Russetings, changed by the farina of a next neighbour, whose name he wanted skill to know; but could only say, that the Russeting had acquired its face and complexion. Mr. COLLINSON then produced several samples of the apples: an untainted Russeting; a Russeting changed in complexion, which grew among a great cluster of unaltered brethren; and some apples of the other tree which had caused the change in the Russitings, and whose fruit, had, in return, received a rough coat from the Russetings."

A farther proof of such intermixture taking place, is given by the same writer, in the *Transactions* for the year 1748, and again alluded to by him in those for the year 1749.

Having thus shown that the opinion entertained is not a novel one, I shall proceed to mention the instances which I have observed.

In the spring of 1819, I gave some carefully saved melon seeds, of the Netted-Succado kind, to a friend near London. The young plants raised from these were injudiciously planted by the gardener, in a frame with another large and inferior variety. The fruits of the Succado set well; but, as they swelled, they gave evident aymptoms of having lost their true character; and, when cut, were found to be very worthless; arising, as I conceive, from the share which the inferior variety had in them.

In the autumn of the same year, I examined on the trees in Mr. BRADDICK'S garden, at Thames Ditton, an evident mixture of character in a Codlin and the Ribston Pippin, in more than one individual, on the sides of the trees next to one another; while the fruit on the opposite sides were wholly untainted. The probability of such mixtures taking place is great in Mr. BRADDICK'S garden, owing to many varieties being grafted on the same stock, and to the closeness with which both the espalier and standard trees are planted.

Early in the year 1820, Mr. BRADDICK sent to the Society samples of two sorts of apples of the preceding year's growth, which he had himself taken from the trees, and carefully preserved, to show the extraordinary sport which they had made.—The two sorts were, the Holland

Pippin, and the White Winter Calville, apples totally dissimilar in appearance; they grew on low standards, very near each other: two of the specimens, gathered from the sides of the trees not contiguous, retained their natural character perfectly well; but the White Calville gathered from the side of the next Holland Pippin, had lost much of its own form and colour, and partaken largely of those of its neighbour; while the Holland Pippin, taken from the side next the Calville, had become nearly a Calville in form and colour.

In October of the same year, Mr. BROGDEN showed me two apples, in which a no less remarkable change had taken place.—The one was a French Crab, grown near a Ribston Pippin, the character of which it had taken; and the other was a Golden Pippin which grew near a Russet, and in which the two varieties, though so wholly different, were evidently blended.

These several instances, all coming within my observation in the course of two seasons, have fully satisfied me, that a change, both in character and quality, is frequently effected. It will be for the physiologist to instruct us as to the mode by which it is done; and, probably, a close investigation of the subject may discover, in this process of nature, sufficient to account for the occasional appearance of a nectarine on the same branch with a peach: this, indeed, appears to me a more reasonable mode of accounting for such an anomaly, than any which I have yet heard suggested.

I have noticed these facts, for the purpose of drawing the attention of horticulturists to the subject; and I trust, that those who have leisure and opportunities will, by actual experiment, endeavour to ascertain whence these occasional deviations arise. Such an investigation will not be useless; for if there does exist in fruits such a liability to change, it will at once be evident to the intelligent cultivator how much care is requisite in growing melons, cucumbers, &c. to secure their fine characters, even without reference to saving seed for a future crop. Such experiments will, I doubt not, frequently succeed, if made with care, and on large flowered-plants: on apples, pears, &c. it will probably be accident only that will give success.

NOTE BY THE PRESIDENT.

The Council of the Horticultural Society having done me the honour to ask my opinion upon the subject of the foregoing Paper, I beg leave to observe, that, not having seen the varieties of fruit mentioned in it, I feel much less qualified to judge, than those gentlemen who had opportunities of inspecting all the circumstances. The evidence given, however, is much more than sufficient to satisfy me, most perfectly, that the variations of form and quality were as extensive as they are described to have been: and indeed I have stated, in a former communication to the society, a much more extraordinary circumstance of the same kind, in which a branch of the Yellow Magnum Bonum Plum-tree bore *red* fruit, perfectly similar in appearance to the variety usually called the Red Magnum Bonum Plum. This occurred in one season only; after which, the branch recovered its former habits. My garden did not contain the variety last men-

tioned; but if it had, I should not be in the least inclined to attribute the change of colour and character, which occurred, to the operation of its pollen; for I have in some hundred instances (I can, with truth say, in some thousand instances) introduced the pollen of one variety of the plum, the pear, the apple, the cherry, the peach, the melon, and other fruits, into the blossoms of others, of very different and opposite habits; and I have never (although I have most closely attended to the results) found, in any one instance, the form, colour, size, or flavour of the fruit belonging to such blossoms, in any degree whatever changed or affected. The fruit and seed coats, in all cases which have come under my inspection, are given wholly by the female parent; and the interior and essential parts of the seeds, those which constitute the future plant, are alone changed by the male parent, without which, I believe, these never exist. I therefore conceive myself fully qualified to decide, that in the deviations of the fruits mentioned, from their ordinary character, the opperation of the pollen of another variety was not the disturbing cause.

NOTE BY THE SECRETARY.

There can be no doubt of the fact, that apples produced on contiguous branches of trees growing near to each other do, occasionally, assume the shape and appearance of their neighbouring variety. The specimens described by Mr. TURNER were all shown to me; and they bore such decidedly different characters from what properly belonged to them, and approached so much in resemblance to the kinds near to which they had grown, that it was impossible not to admit the change to have taken place in consequence of their contiguity.—The difficulty of the subjuect at present lies, in assigning the cause to the effect produced.

In the alteration made in the Succado Melon, mentioned by Mr. TURNER, there does not appear to have been any attempt at artificial impregnation: but there is an instance recorded in the Society's *Transactions*, of a change having taken place in a melon purposely impregnated by the farina of another variety, by Mr. DAVID ANDERSON, in Lord MONTAGU's garden at Ditton Park. I have also been lately (December, 1821.) informed of a similar variation of external form having occurred in the last season, in the collection of plants belonging to Mr GRIFFIN at South Lambeth. A blossom of *Amaryllis vittata*, the capsule of which is nearly globular having been impregnated by the farina of one of those species of *Amaryllis* from South America, whose capsule has its angles very gibbous at the base; the hybridized capsule, when it grew towards maturity, assumed the shape belonging to the species which had furnished the impregnating pollen. These deviations from the usual course of nature are not, however, sufficient to establish the position, that the change is effected by impregnation; whilst the long experience of the President, as stated by himself, is opposed to the possibility of such change. It remains, therefore, for us to attend to and investigate the phenomena with peculiar care, when they again occur, in the hope of discovering the real cause of the change.

COLLECTING SEEDS.

Great improvement may be made by selecting seeds from the earliest, most vigorous, and thrifty plants. Even wheat for seed has been picked from the field by such single heads as were most forward, vigorous, large, and filled with the most plump and sound berry; and in that way, a gradual improvement of the kind may be introduced. If we were about to purchase garden seeds, we should wish to be informed in what neighborhood or fraternity of other vegitable they grew. Different sorts of plants, of the same or similar species, impart to each other their respective qualities—Thus, if the genuine ruta baga grew near the common turnip, or turnip cabbage, the seeds of the former will have in part the peculiarities of the latter, and vice versa. If a mangelwurtzel root, intended for seed, has grown near a plant of the common kind of beet, which has likewise gone to seed, the seeds of each plant will partake in some degree of the qualities of the other. You should never save seeds from such watermelons, squashes, cucumbers, pumpkins, goards, &c. as have grown near each other, unless, in your crop from such seeds, you would have melons which have somewhat the flavor of squashes, cucumbers which taste a little like pumpkins, and pumpkins not much sweeter than goards. There can be no cross between a cabbage and a carrot; but there can be between a cabbage and a turnip. Between a cabbage and a cauliflower, nothing is more common; and the different kinds of cabbages will produce crosses presenting twenty, and perhaps a thousand degrees, from the early York to the Savoy. Turnips will mix with radishes and ruta baga; all these with rape; the result will mix with cabbages and cauliflowers, so that, if nothing were done to preserve plants true to their kind, our gardens would soon present us with little beside mere herbage. To save the seed of two sorts of any tribe, in the same garden, in the same year, ought not to be attempted; and this it is that makes it difficult for any one to raise all sorts of seeds good and true. Seeds should stand till quite ripe, and should then be gathered when dry. If when threshed or shelled, any moisture remains attached to them, they should be dried in the sun, or near a fire. They are best kept in the room where there is at least a fire in the winter. They are most securely kept in the pods or on the stalks; but this is sometimes inconvenient, and often impracticable, unless it be for such as are very valuable, very curious, and lie in a small compass. Mr. Cobbett says, that great care is necessary to avoid the use of unripe seed. "Even in hot weather, when the seed would drop out, if the plants were left standing, pull or cut the plants, and lay them on a cloth in the sun, till the seed be all ready to fall out; for if forced from the pod the seed is never so good. Seed will grow if gathered when they are green as grass, and afterwards dried in the sun, but they do not produce plants like those coming from ripe seed.—I used some years ago, fifty grains of wheat, gathered green, against fifty gathered ripe. Not only where the plants of the former feeble, when compared with the latter; not only was the produce of the former two-thirds less than the latter, but even the quality of the grain was

not half so good. Many of the ears had smut, which was not the case with those that came from the ripened seed, though the land and the cultivation were in both cases the same."

Other writers advise, not to reap wheat infected with smut, till fully ripe and perfectly dry, and according to Mr. C. wheat intended for seed, should in all cases be allowed to become quite ripe before it is reaped.

A writer, whose observations are quoted with approbation in the "Complete Farmer," an English work of authority, says: "I never thresh the sheaves which are to supply me with seed till just when I want to make use of it. I have a notion that seed keeps better in the the covering that nature has given it, (I mean the chaff.) than it would do without it—And I am pretty certain it sprouts sooner in the ground, the husk or bran being preserved in a tenderer and more yielding state, than it would be, were it exposed to the open air." If new seed is to be prefered to old, (which we believe to be the correct doctrine on this subject,) wheat, rye, &c. may easily be kept in the sheaf, or at least in the chaff.

PRESERVATION OF FRUIT TREES AND ORCHARDS.

A writer in the American Farmer observes on this subject, that TAN scattered over the roots of his Peach, Pear and Plumb trees, at the close of the winter, had preserved them from the ravages of the catterpillars, canker-worms, grubs, and every kind of insect—also, that it prevents the black gum which oozes from the trunks and limbs, and several persons have attested to the flourishing state of this gentleman's orchards, and to his recovery of trees, obviously in a state of rapid decay to renewed health and vigour. He recommends it to be applied once in two years, in quantity about half a bushel according to the size of the tree. Tan about the roots loosens the earth, and prepares it to receive and communicate greater quantities of nutriment to the tree, which enables it more effectually to resist every malady to which it may be liable.

In the same valuable publication, that young trees will not thrive on the scite of an old orchard, is refuted. Trees planted on new land, enriched with decayed vegatable productions, are represented, justly, to be in more favourable circumstances for a vigorous growth, than their successors, committed to the soil after its being exhausted, and without any assistance by art. To rear young trees in any convenient situation, where old ones have been, he gives the following rules.

1. Be sure that the roots of the tree be not below the soil. If the soil be shallow, bring it from an. other place, and throw it round the tree, in a sufficient circumference for the roots to grow in.

2. Prune the superfluous limbs and branches, and keep the bark smooth and clear from moss.

3. Suffer no grass to grow within 10 feet of the tree; and, *spring* and *fall*, loosen the earth in this circumference, and mix into it a full wheelbarrow-load of rich manure.

A few years experiments on this plan, had convinced the writer of the article, that the principle opposed, was without foundation.

PEACH TREES.

PROCESS FOR DESTROYING WORMS IN THEM, AND PROPER SOIL FOR CULTURE.

My trees were all in a very sickly state. They are now in full bloom, so that if the season proves favourable, one tenth of the blossoms will load them with fruit. The method was as follows: the stems of the trees, and the roots near them, were laid bare by taking the earth away; when on examination, I found a number of holes, about the bigness of a common gimblet; on probing them, brought out hairy worms, of a whitish colour, except the head, and that was brown, with a sharp nose, had a boaring motion, and about an inch long. The method taken to destroy them: Burdock leaves were dipped in whale oil, squeezed a little, as they retained rather too much oil, and wrapped about the the part affected and the soil thrown on them that had been taken off. One gallon and a half served twenty trees. The effluvia of the oil must have killed them pretty soon. But as the properties of nature are often discovered by chance without sagacity, it may be proper to observe, that there were three trees under which several hives with bees were placed; and as I was loth to offend them with the effluvia of the oil, the stems and roots of these were only laid bare, and yet they all recovered. The reason may be, that as the worms are very porous, the air entering their holes killed them: from which, I am of opinion, if the trees are laid bare, as above, in the spring, and covered before the winter sets in, it may answer the desired effect, with once taking off the fungus or gum on the body of the tree, under which the worms breed. Observing a lump on one of the trees, nearly as big as a hen's egg, about eighteen inches from the ground, I cut it open, and found two tubes about an inch long, closed at one end; it seemed to be made up of the inner bark of the tree and gum, very nearly full of worms, about the eighth of an inch long, very brisk, and their heads had a boaring motion, they all disolved in the air. Cutting a little farther into the tree I found the *dam*, and put a small drop of oil on its head; it drew up in a ball and died instantly. Since I am on this subject, shall I be pardoned in carrying my observations a little further. It is but of late years, that any complaint has come to my knowledge, of these trees so soon decaying; may not the reason be, that formerly they were planted in the fields, where the soil was not manured, and they are now planted in gardens highly cultivated, where all kinds of worms are engendered. For I well remember, a large peach orchard in the county of Bergen, in this state, was planted on what is called the Sand Hills, probably about 1738. In 1776, riding over those hills, it was still in being. The soil was so loose, that in hard winds, the eddies made holes near the orchard, so as to uncover the graves of the natives. When a boy, I used to go with my little companions to get harpoons, stones, axes and skulls of Indians. Now if I am right in my conjecture, it will follow, that a loose sandy soil is the most proper for these kind of trees.

GREEN PEAS.

The trouble and cost of preparing the ground, bushing and ten-

ding Peas, has rendered the saying common, that "Green Peas are dear eating." But friend *lover*, attend to the following easy process, and you can have them plenty and cheap. Plant five or six peas in each of your potatoe hills, the vines of which will support and keep the peas from the ground, so that they will spread round and display themselves, to the eye and hand of the gatherer: neither the roots nor the vines of the peas do any perceivable injury to the potatoes. The peas may be put in to equal advantage even after the potatoes have vegetated above ground.

FROM THE AMERICAN FARMER.

CURE FOR CHOLIC IN HORSES.

Brunswick County, Feb. 12, 1825.

TO THE EDITOR OF THE AMERICAN FARMER.

SIR.—Noticing in No. 45, of the Farmer, the case of your sorrel horse, induces me to inform you of a never failing remedy for the cholic in the horse, having used it invariably with success for the last twenty five years. I obtained my information from a travelling gentleman, who said also that he never knew it to fail. It is nothing more than half a pound of glauber salts administered in a drench. I generally guess at the quantity, and no doubt frequently give more, for it will do no harm. How it has this powerful and immediate effect, I submit to others to point out; but it certainly will give entire relief in fifteen or twenty minutes; not only to the horse but to the ox. Although I have had a knowledge of this remedy for such a length of time, and have always recommended it to others who had horses labouring under this disease, with success too, still there are only a few, who, knowing this remedy, are willing, on all occasions to apply it, which can be accounted for in no other way than that its simplicity makes them incredulous as to its effects. After you, Sir, have been convinced of the efficacy of this remedy, you would do a signal service to the community to endeavour, through your paper, to impress them with a sense of its utility.

Some time since, I cautioned my son of this remedy, who has his first horse; a few days afterwards, one of my horses was taken with violent spasms of the stomach, I carried my son out with his watch to witness the happy effects of salts; the horse was in such pain as to be unable to stand to be drenched, it was given him as he lay; in fifteen minutes he appeared to be perfectly easy and went to a pool to drink. Notwithstanding this, his own horse (from home at the time) being taken with symptoms similar to those you described, instead of applying my remedy, was persuaded, by knowing ones, to try other remedies with no effect, after which he had recourse to the salts, which relieved him immediately.

Your very humble servant,

RICH. K. MEADE.

TO KILL BOTS IN HORSES.

Pour a quart of rum down his throat. This will make them loose their hold of the maw, and they will be carried off with its contents. Repeat the dose as often as may be found necessary. A few doses of linseed oil, a pint

each time, will also quickly effect a cure.

Another effectual remedy, we have seen recommended, is, to take a spoonful of unslacked lime, at a time, and mix it with the food of the horse, morning and evening, for three or four days, which will completely expel these insects;

ANALYSIS OF TEA.

"An opinion has long prevailed, that *green tea* is impregnated with poisonous substances, in consequence of it being dried by the Chinese on copper plates.—Although it was easy to have ascertained this fact on the spot, no one seems to have regarded it as of any consequence, and we have been going on drinking what has been almost universally considered a deleterious effusion, without appearing in the least apprehensive of its consequences.

"The fact is, *green* tea is as free of pernicious qualities as *black* tea, which has been recently ascertained in London, by a variety of experiments. A member of the royal institution has published the result of these, in which he says, that "amonia was never indicative of the least particle of copper in samples of green tea, which were perfectly genuine." He also states, "that the tea is dried in China, on porclain slabs, and not on copper plates as generally supposed, and that the northern Tartars are entire strangers to black tea, the green only being familiar to them. It should seem, that there are two distinct species of genus *thea*. The *thea bohea*, and *thea virtdis*; and that *hot alcahol* poured on *green tea*, does not cause the evolution of the leaves, but that they may become *black*, and thus resemble black tea not infused.

"From this statement, it appears that the prevailing idea as to *green* tea, is one of those "vulgar errors" which the progress of science alone has dissipated, and that, instead of swallowing a poisonous substance when we use it, we are drinking a wholesome beverage."

BEER.

To make Spruce beer, boil some spruce boughs with some wheat-bran till the water tastes sufficiently of the spruce; strain the water, and stir in at the rate of two quarts of molasses to a half-barrel; work it with the emptyings of beer, or with yeast if you have it. After working sufficiently, bung up the cask, or, which is better, bottle its contents.

FROM THE N. E. FARMER'S ALMANAC.

WOOD.

Keep on sledding wood till you have got a pile just 99 times as big as the Sea Serpent. There are but few things more vexatious than to be obliged to tackle your team in the hurry of haying, or harvesting, in order to *snatch* home a green tree top for fuel, which wont, after all burn much better than an ice island. The cultivativator who suffers summer to come about, not having a good store of dry wood under cover, may rank with him whose pork barrel is as empty as the head of a dandy. If you do not intend that your wife, daughters, *help &c.* should be as cross as catamounts; and snap at you like a hemlock back log, you will split and pile away some elegant billets for oven wood.